

time does not permit an on track vehicle inspection, and where track centers are 15 foot or less, the requirements of this paragraph (b)(3) will not apply; and

(4) Track inspection records shall indicate which track(s) are traversed by the vehicle or inspected on foot as outlined in paragraph (b)(3) of this section.

(c) Each track inspection shall be made in accordance with the following schedule—

Class of track	Required frequency
6, 7, and 8	Twice weekly with at least 2 calendar-day's interval between inspections.
9	Three times per week.

(d) If the person making the inspection finds a deviation from the requirements of this part, the person shall immediately initiate remedial action.

(e) Each switch, turnout, track crossing, and lift rail assemblies on moveable bridges shall be inspected on foot at least weekly. The inspection shall be accomplished in accordance with the Guidebook required under §213.353.

(f) In track Classes 8 and 9, if no train traffic operates for a period of eight hours, a train shall be operated at a speed not to exceed 100 miles per hour over the track before the resumption of operations at the maximum authorized speed.

[63 FR 34029, June 22, 1998; 63 FR 45959, Aug. 28, 1998]

§213.367 Special inspections.

In the event of fire, flood, severe storm, temperature extremes or other occurrence which might have damaged track structure, a special inspection shall be made of the track involved as soon as possible after the occurrence and, if possible, before the operation of any train over that track.

§213.369 Inspection records.

(a) Each owner of track to which this part applies shall keep a record of each inspection required to be performed on that track under this subpart.

(b) Except as provided in paragraph (e) of this section, each record of an inspection under §213.365 shall be prepared on the day the inspection is made and signed by the person making

the inspection. Records shall specify the track inspected, date of inspection, location and nature of any deviation from the requirements of this part, and the remedial action taken by the person making the inspection. The owner shall designate the location(s) where each original record shall be maintained for at least one year after the inspection covered by the record. The owner shall also designate one location, within 100 miles of each state in which they conduct operations, where copies of record which apply to those operations are either maintained or can be viewed following 10 days notice by the Federal Railroad Administration.

(c) Rail inspection records shall specify the date of inspection, the location and nature of any internal defects found, the remedial action taken and the date thereof, and the location of any intervals of track not tested per §213.339(d). The owner shall retain a rail inspection record for at least two years after the inspection and for one year after remedial action is taken.

(d) Each owner required to keep inspection records under this section shall make those records available for inspection and copying by the Federal Railroad Administrator.

(e) For purposes of compliance with the requirements of this section, an owner of track may maintain and transfer records through electronic transmission, storage, and retrieval provided that—

(1) The electronic system be designed such that the integrity of each record maintained through appropriate levels of security such as recognition of an electronic signature, or other means, which uniquely identify the initiating person as the author of that record. No two persons shall have the same electronic identity;

(2) The electronic storage of each record shall be initiated by the person making the inspection within 24 hours following the completion of that inspection;

(3) The electronic system shall ensure that each record cannot be modified in any way, or replaced, once the record is transmitted and stored;

(4) Any amendment to a record shall be electronically stored apart from the

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record which it amends. Each amendment to a record shall be uniquely identified as to the person making the amendment;

(5) The electronic system shall provide for the maintenance of inspection records as originally submitted without corruption or loss of data; and

(6) Paper copies of electronic records and amendments to those records, that may be necessary to document compliance with this part, shall be made available for inspection and copying by the FRA and track inspectors responsible under §213.305. Such paper copies shall be made available to the track inspectors and at the locations specified in paragraph (b) of this section.

(7) Track inspection records shall be kept available to persons who performed the inspection and to persons performing subsequent inspections.

(f) Each vehicle/track interaction safety record required under §213.333 (g), and (m) shall be made available for inspection and copying by the FRA at the locations specified in paragraph (b) of this section.

**APPENDIX A TO PART 213—MAXIMUM
ALLOWABLE CURVING SPEEDS**

This appendix contains four tables identifying maximum allowing curving speeds based on 3, 4, 5, and 6 inches of unbalance (cant deficiency), respectively.

TABLE 1—THREE INCHES UNBALANCE

Degree of curvature	Elevation of outer rail (inches)												
	0	½	1	1½	2	2½	3	3½	4	4½	5	5½	6
	Maximum allowable operating speed (m.p.h.)												
0°30'	93	100	107	113	120	125	131	136	141	146	151	156	160
0°40'	80	87	93	98	104	109	113	118	122	127	131	135	139
0°50'	72	77	83	88	93	97	101	106	110	113	117	121	124
1°00'	65	71	76	80	85	89	93	96	100	104	107	110	113
1°15'	59	63	68	72	76	79	83	86	89	93	96	99	101
1°30'	53	58	62	65	69	72	76	79	82	85	87	90	93
1°45'	49	53	57	61	64	67	70	73	76	78	81	83	86
2°00'	46	50	53	57	60	63	65	68	71	73	76	78	80
2°15'	44	47	50	53	56	59	62	64	67	69	71	73	76
2°30'	41	45	48	51	53	56	59	61	63	65	68	70	72
2°45'	39	43	46	48	51	53	56	58	60	62	64	66	68
3°00'	38	41	44	46	49	51	53	56	58	60	62	64	65
3°15'	36	39	42	44	47	49	51	53	55	57	59	61	63
3°30'	35	38	40	43	45	47	49	52	53	55	57	59	61
3°45'	34	37	39	41	44	46	48	50	52	53	55	57	59
4°00'	33	35	38	40	42	44	46	48	50	52	53	55	57
4°30'	31	33	36	38	40	42	44	45	47	49	50	52	53
5°00'	29	32	34	36	38	40	41	43	45	46	48	49	51
5°30'	28	30	32	34	36	38	39	41	43	44	46	47	48
6°00'	27	29	31	33	35	36	38	39	41	42	44	45	46
6°30'	26	28	30	31	33	35	36	38	39	41	42	43	44
7°00'	25	27	29	30	32	34	35	36	38	39	40	42	43
8°00'	23	25	27	28	30	31	33	34	35	37	38	39	40
9°00'	22	24	25	27	28	30	31	32	33	35	36	37	38
10°00'	21	22	24	25	27	28	29	30	32	33	34	35	36
11°00'	20	21	23	24	25	27	28	29	30	31	32	33	34
12°00'	19	20	22	23	24	26	27	28	29	30	31	32	33

TABLE 2—FOUR INCHES UNBALANCE

Degree of curvature	Elevation of outer rail (inches)													
	0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6	
	Maximum allowable operating speed (m.p.h.)													
0°-30'	107	113	120	125	131	136	141	146	151	156	160	165	169	
30°-40'	93	98	104	109	113	118	122	127	131	135	139	143	146	
40°-50'	83	88	93	97	101	106	110	113	117	121	124	128	131	
50°-60'	76	80	85	89	93	96	100	104	107	110	113	116	120	
60°-75'	68	72	76	79	83	86	89	93	96	99	101	104	107	
75°-90'	62	65	69	72	76	79	82	85	87	90	93	95	98	

TABLE 2—FOUR INCHES UNBALANCE—Continued

Degree of curvature	Elevation of outer rail (inches)						
	0	1/2	1	1 1/2	2	2 1/2	3
	Maximum allowable operating speed (m.p.h.)						
1°45'	57	61	64	67	70	73	76
2°00'	53	57	60	63	65	68	71
2°15'	50	53	56	59	62	64	67
2°30'	48	51	53	56	59	61	63
2°45'	46	48	51	53	56	58	60
3°00'	44	46	49	51	53	56	58
3°15'	42	44	47	49	51	53	55
3°30'	40	43	45	47	49	52	53
3°45'	39	41	44	46	48	50	52
4°00'	38	40	42	44	46	48	50
4°30'	36	38	40	42	44	45	47
5°00'	34	36	38	40	41	43	45
5°30'	32	34	36	38	39	41	43
6°00'	31	33	35	36	38	39	41
6°30'	30	31	33	35	36	38	39
7°00'	29	30	32	34	35	36	38
8°00'	27	28	30	31	33	34	35
9°00'	25	27	28	30	31	32	33
10°00'	24	25	27	28	29	30	31
11°00'	23	24	25	27	28	29	30
12°00'	22	23	24	26	27	28	29
1°45'	90	88	86	83	81	78	76
2°00'	85	82	80	78	76	73	71
2°15'	80	78	76	73	71	69	67
2°30'	76	74	72	70	68	66	64
2°45'	72	70	68	66	64	62	60
3°00'	69	67	65	63	61	59	57
3°15'	66	64	62	60	58	56	54
3°30'	64	62	60	58	56	54	52
3°45'	62	60	58	56	54	52	50
4°00'	60	58	56	54	52	50	48
4°30'	56	54	52	50	48	46	44
5°00'	53	51	49	47	45	43	41
5°30'	51	49	47	45	43	41	39
6°00'	49	47	45	43	41	39	37
6°30'	48	46	44	42	40	38	36
7°00'	47	45	43	41	39	37	35
8°00'	44	42	40	38	36	34	32
9°00'	42	40	38	36	34	32	30
10°00'	40	38	36	34	32	30	28
11°00'	38	36	34	32	30	28	26
12°00'	35	34	33	32	31	30	29

TABLE 3—FIVE INCHES UNBALANCE

Degree of curvature	Elevation of outer rail (inches)						
	0	1/2	1	1 1/2	2	2 1/2	3
	Maximum allowable operating speed (m.p.h.)						
0°30'	120	125	131	136	141	146	151
0°40'	104	109	113	118	122	127	131
0°50'	93	97	101	106	110	113	117
1°00'	85	89	93	96	100	104	107
1°15'	76	79	83	86	89	93	96
1°30'	69	72	76	79	82	85	87
1°45'	64	67	70	73	76	78	81
2°00'	60	63	65	68	71	73	76
2°15'	56	59	62	64	67	69	71
2°30'	53	56	59	61	63	65	68
2°45'	51	53	56	58	60	62	64
3°00'	49	51	53	56	58	60	62
0°30'	177	173	169	165	160	156	151
0°40'	150	146	143	139	135	131	127
0°50'	137	134	131	128	124	121	117
1°00'	125	122	119	116	113	110	107
1°15'	112	109	107	104	101	98	95
1°30'	102	100	98	95	93	90	87
1°45'	95	93	90	88	85	82	79
2°00'	89	87	85	82	80	78	76
2°15'	84	82	80	78	76	74	72
2°30'	79	77	75	73	71	69	67
2°45'	76	74	72	70	68	66	64
3°00'	72	71	69	67	65	63	61

3°15'	47	49	51	53	55	57	59	61	63	65	66	68	70
3°30'	45	47	49	52	53	55	57	59	61	62	64	65	67
3°45'	44	46	48	50	52	53	55	57	59	60	62	63	65
4°00'	42	44	46	48	50	52	53	55	57	58	60	61	63
4°30'	40	42	44	45	47	49	50	52	53	55	56	58	59
5°00'	38	40	41	43	45	46	48	49	51	52	53	55	56
5°30'	36	38	39	41	43	44	46	47	48	50	51	52	53
6°00'	35	36	38	39	41	42	44	45	46	48	49	50	51
6°30'	33	35	36	38	39	41	42	43	44	46	47	48	49
7°00'	32	34	35	36	38	39	40	42	43	44	45	46	47
8°00'	30	31	33	34	35	37	38	39	40	41	42	43	44
9°00'	28	30	31	32	33	35	36	37	38	39	40	41	42
10°00'	27	28	29	30	32	33	34	35	36	37	38	39	40
11°00'	25	27	28	29	30	31	32	33	34	35	36	37	38
12°00'	24	26	27	28	29	30	31	32	33	34	35	36	37

TABLE 4—SIX INCHES UNBALANCE

Degree of curvature	Elevation of outer rail (inches)												
	0	½	1	1½	2	2½	3	3½	4	4½	5	5½	6
Maximum allowable operating speed (m.p.h.)													
0°30'	131	136	141	146	151	156	160	165	169	173	177	181	185
0°40'	113	118	122	127	131	135	139	143	146	150	154	157	160
0°50'	101	106	110	113	117	121	124	128	131	134	137	140	143
1°00'	93	96	100	104	107	110	113	116	120	122	125	128	131
1°15'	83	86	89	93	96	99	101	104	107	110	112	115	117
1°30'	76	79	82	85	87	90	93	95	98	100	102	105	107
1°45'	70	73	76	78	81	83	86	88	90	93	95	97	99
2°00'	65	68	71	73	76	78	80	82	85	87	89	91	93
2°15'	62	64	67	69	71	73	76	78	80	82	84	85	87
2°30'	59	61	63	65	68	70	72	74	76	77	79	81	83
2°45'	56	58	60	62	64	66	68	70	72	74	76	77	79
3°00'	53	56	58	60	62	64	65	67	69	71	72	74	76
3°15'	51	53	55	57	59	61	63	65	66	68	70	71	73
3°30'	49	52	53	55	57	59	61	62	64	65	67	69	70
3°45'	48	50	52	53	55	57	59	60	62	63	65	66	68
4°00'	46	48	50	52	53	55	57	58	60	61	63	64	65
4°30'	44	45	47	49	50	52	53	55	56	58	59	60	62
5°00'	41	43	45	46	48	49	51	52	53	55	56	57	59
5°30'	39	41	43	44	46	47	48	50	51	52	53	55	56
6°00'	38	39	41	42	44	45	46	48	49	50	51	52	53
6°30'	36	38	39	41	42	43	44	46	47	48	49	50	51
7°00'	35	36	38	39	40	42	43	44	45	46	47	48	49
8°00'	33	34	35	37	38	39	40	41	42	43	44	45	46
9°00'	31	32	33	35	36	37	38	39	40	41	42	43	44
10°00'	29	30	32	33	34	35	36	37	38	39	40	41	42
11°00'	28	29	30	31	32	33	34	35	36	37	38	39	40
12°00'	28	29	30	31	32	33	34	35	36	37	38	39	40

TABLE 4—SIX INCHES UNBALANCE—Continued

	Elevation of outer rail (inches)										
	0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5
Degree of curvature	Maximum allowable operating speed (m.p.h.)										
12°00'	27	28	29	30	31	32	33	34	35	36	37
											38

[78 FR 16113, Mar. 13, 2013]

APPENDIX B TO PART 213—SCHEDULE OF CIVIL PENALTIES

Section	Violation	Willful Violation ¹
Subpart A—General:		
213.4(a) Excepted track ²	\$2,500	\$5,000
213.4(b) Excepted track ²	2,500	5,000
213.4(c) Excepted track ²	2,500	5,000
213.4(d) Excepted track ²	2,500	5,000
213.4(e):		
(1) Excepted track	5,000	7,500
(2) Excepted track	7,000	10,000
(3) Excepted track	7,000	10,000
(4) Excepted track	5,000	7,500
213.4(f) Excepted track	2,000	4,000
213.7 Designation of qualified persons to supervise certain renewals and inspect track	1,000	2,000
213.9 Classes of track: Operating speed limits	2,500	2,500
213.11 Restoration or renewal of track under traffic conditions	2,500	2,500
213.13 Measuring track not under load	1,000	2,000
Subpart B—Roadbed:		
213.33 Drainage	2,500	5,000
213.37 Vegetation	1,000	2,000
Subpart C—Track Geometry:		
213.53 Gage	5,000	7,500
213.55 Track alignment	5,000	7,500
213.57 Curves; elevation and speed limitations	2,500	5,000
213.59 Elevation of curved track; runoff	2,500	2,500
213.63 Track surface	5,000	7,500
213.65 Combined track alignment and surface deviations	5,000	7,500
Subpart D—Track structure:		
213.103 Ballast; general	2,500	5,000
213.109 Crossties		
(a) Material used	1,000	2,000
(b) Distribution of ties	2,500	5,000
(c) and (d) Sufficient number of non-defective ties	1,000	2,000
(e) Joint ties	2,500	5,000
(f) Track constructed without crossties	2,500	5,000
213.110 Gage restraint measurement systems	5,000	7,500
213.113 Defective rails	5,000	7,500
213.115 Rail end mismatch	2,500	5,000
213.118 Continuous welded rail plan (a) through (e)	5,000	7,500
213.119 Continuous welded rail plan contents (a) through (k)	5,000	7,500
213.121 (a) Rail joints	2,500	5,000
213.121 (b) Rail joints	2,500	5,000
213.121 (c) Rail joints	5,000	7,500
213.121 (d) Rail joints	2,500	5,000
213.121 (e) Rail joints	2,500	5,000
213.121 (f) Rail joints	2,500	5,000
213.121 (g) Rail joints	2,500	5,000
213.121 (h) Rail joints	5,000	7,500
213.122 Torch cut rail	2,500	5,000
213.123 Tie plates	1,000	2,000
213.127 Rail Fastening Systems	2,500	5,000
213.133 Turnouts and track crossings, generally	1,000	1,000
213.135 Switches:		
(a) through (g)	2,500	5,000
(h) chipped or worn points	5,000	7,500
213.137 Frogs	2,500	5,000
213.139 Spring rail frogs	2,500	5,000
213.141 Self-guarded frogs	2,500	5,000
213.143 Frog guard rails and guard faces; gage	2,500	5,000
Subpart E—Track appliances and track-related devices:		
213.205 Derails	2,500	5,000
Subpart F—Inspection:		
213.233 Track inspections	2,000	4,000
213.234 Automated inspection of track constructed with concrete crossties	5,000	7,500
213.235 Switches, crossings, transition devices	2,000	4,000
213.237 Inspection of rail	2,500	5,000
213.239 Special inspections	2,500	5,000
213.241 Inspection records	1,000	1,000
Subpart G—Train operations at track classes 6 and higher:		
213.305 Designation of qualified individuals; general qualifications	1,000	2,000

Section	Violation	Willful Violation ¹
213.307 Classes of track: operating speed limits	2,500	5,000
213.309 Restoration or renewal of track under traffic conditions	2,500	5,000
213.311 Measuring track not under load	1,000	2,000
213.319 Drainage	2,500	5,000
213.321 Vegetation	1,000	2,000
213.323 Track gage	5,000	7,500
213.327 Track alignment	5,000	7,500
213.329 Curves; elevation and speed limits	2,500	5,000
213.331 Track surface	5,000	7,500
213.332 Combined track alignment and surface deviations	5,000	7,500
213.333 Automated vehicle-based inspection systems	5,000	7,500
213.335 Crossties		
(a) Material used	1,000	2,000
(b) Distribution of ties	2,500	5,000
(c) Sufficient number of nondefective ties, non-concrete	1,000	2,000
(d) Sufficient number of nondefective concrete ties	1,000	2,000
(e) Joint ties	2,500	5,000
(f) Track constructed without crossties	2,500	5,000
(g) Non-defective ties surrounding defective ties	2,500	5,000
(h) Tie plates	2,500	5,000
(i) Tie plates	1,000	2,000
213.337 Defective rails	5,000	7,500
213.339 Inspection of rail in service	2,500	5,000
213.341 Inspection of new rail	2,500	5,000
213.343 Continuous welded rail (a) through (h)	5,000	7,500
213.345 Vehicle/track system qualification:		
(a) through (d)	5,000	7,500
(e) through (i)	2,500	5,000
213.347 Automotive or railroad crossings at grade	5,000	7,500
213.349 Rail end mismatch	2,500	5,000
213.351 (a) Rail joints	2,500	5,000
213.351 (b) Rail joints	2,500	5,000
213.351 (c) Rail joints	5,000	7,500
213.351 (d) Rail joints	2,500	5,000
213.351 (e) Rail joints	2,500	5,000
213.351 (f) Rail joints	5,000	7,500
213.351 (g) Rail joints	5,000	7,500
213.352 Torch cut rails	2,500	5,000
213.353 Turnouts, crossovers, transition devices	1,000	2,000
213.355 Frog guard rails and guard faces; gage	2,500	5,000
213.357 Derails	2,500	5,000
213.359 Track stiffness	5,000	7,500
213.361 Right of way	5,000	7,500
213.365 Visual inspections	2,500	5,000
213.367 Special inspections	2,500	5,000
213.369 Inspections records	2,000	4,000

¹A penalty may be assessed against an individual only for a willful violation. The Administrator reserves the right to assess a penalty of up to \$105,000 for any violation where circumstances warrant. See 49 CFR part 209, appendix A.

²In addition to assessment of penalties for each instance of noncompliance with the requirements identified by this footnote, track segments designated as excepted track that are or become ineligible for such designation by virtue of noncompliance with any of the requirements to which this footnote applies are subject to all other requirements of part 213 until such noncompliance is remedied.

[63 FR 34029, June 22, 1998; 63 FR 45959, Aug. 28, 1998, as amended at 70 FR 66299, Nov. 2, 2005; 73 FR 79701, Dec. 30, 2008; 74 FR 43006, Aug. 25, 2009; 77 FR 24419, Apr. 24, 2012; 78 FR 16115, Mar. 13, 2013]

APPENDIX C [RESERVED]

APPENDIX D TO PART 213—MINIMALLY COMPLIANT ANALYTICAL TRACK (MCAT) SIMULATIONS USED FOR QUALIFYING VEHICLES TO OPERATE AT HIGH SPEEDS AND AT HIGH CANT DEFICIENCIES

1. This appendix contains requirements for using computer simulations to comply with

the vehicle/track system qualification testing requirements specified in subpart G of this part. These simulations shall be performed using a track model containing defined geometry perturbations at the limits that are permitted for a specific class of track and level of cant deficiency. This track model is known as MCAT, Minimally Compliant Analytical Track. These simulations shall be used to identify vehicle dynamic